UNITED STATES PATENT AND TRADEMARK OFFICE

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/644,305	08/20/2003	Hideyuki Aoki	FUJM 20.579	6021

			EXAMINER
26304	7590	12/02/2005	DESIR, PIERRE LOUIS

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ART UNIT	PAPER NUMBER
2681	

DATE MAILED: 12/02/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

PTO-90C (Rev. 10/03)

		Application No.	Applicant(s)
Office Action Summary		10/644,305	AOKI ET AL.
		Examiner	Art Unit
		Pierre-Louis Desir	2681

-- *The MAILING DATE of this communication appears on the cover sheet with the correspondence address* --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE <u>3</u> MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.
- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *14 November 2005*.

2a)☒ This action is **FINAL**.   2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *-5,7,8,10 and 11* is/are pending in the application.

    4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *-5,7,8,10 and 11* is/are rejected.

7)☒ Claim(s) *6,9 and 12* is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *20 August 2003* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

    Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

    a)☒ All   b)☐ Some * c)☐ None of:

      1.☒ Certified copies of the priority documents have been received.

      2.☐ Certified copies of the priority documents have been received in Application No. _____.

      3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

    * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1)☒ Notice of References Cited (PTO-892)

2)☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3)☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.

4)☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.

5)☐ Notice of Informal Patent Application (PTO-152)

6)☒ Other: *Application # 60371941*.

DETAILED ACTION

Response to Arguments

1.   Applicant's arguments filed 11/14/2005 have been fully considered but they are not persuasive.

2.   Applicant argues that the Examiner may rely upon the filing date of the provisional application, which is a date of April 10, 2002. However, Applicant contends the provisional application does not properly support the subject matter relied upon to make the rejection. Applicant requests that the examiner to provide a copy of the provisional application and point out where the provisional application shows applicant's claimed features.

Enclosed with this response is a copy of the provisional Application (serial #: 60371941). Examiner refers Applicant to the Abstract, Specification, and drawings descriptions (figs. 1-26) of the Sheha reference which are clearly supported by the Abstract, Specification, and drawings descriptions (figs. 1-26) of the provisional application with the relied upon date.

Claim Rejections - 35 USC § 103

3.   The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

4.   Claims 1-3, 8, 10-11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Sheha et al. (Sheha), Pub. No. US 20050075119, in view of Eldering et al. (Eldering), Pub. No. US 20020111154.

Regarding claim 1, Sheha discloses information distribution service system comprising a plurality of mobile information terminals (i.e., various mobile devices) (see fig. 1, and page 6, paragraph 61), a computer system (see fig. 1, page 6, paragraph 61) and a plurality of information-provider terminals (see fig. 1, page 6, paragraph 61) wherein said mobile information terminals, said computer system and said information-provider terminals are connected to each other by a communication network (see fig. 1), wherein said computer system predicts a mobile information terminal's moving destination and moving direction by inferring said mobile-information terminal's location displacements along a time series on the basis of information on locations of said mobile information terminal including a pre-registered information category whose information distribution service, distribution and notification are desired (i.e., Sheha discloses a system for calculating estimated route information (moving destination and moving direction), using discrete sampled location update, which is obtained over a specified period of time (time series). The estimated route is created based on a set of user route preferences (pre-registered), using location history information. A subset of information can also be illustrated (distribution and notification)) (see paragraphs 12-13 and 26).

Although Sheha discloses a system as described, Sheha does not specifically disclose a system wherein the computer system predicts a mobile information terminal's moving destination and moving direction by inferring the mobile-information terminal's location displacement on the basis of an inference formula provided in advance with said mobile information terminal's moving direction and location; and the computer system determines an information-provider terminal predicted to exist at said predicted moving destination of said mobile information terminal on the basis of locations of information-provider terminals pre-

recording plans to distribute information as a notification, and determines distributed and reported information corresponding to an information category registered in advance by said mobile information terminal among pieces of information to be provided by said selected information-provider terminal.

However, Eldering discloses a system comprising predicting a mobile information terminal's moving destination and moving direction by inferring the mobile-information terminal's location displacement on the basis of an inference formula provided in advance with said mobile information terminal's moving direction and location (i.e., the delivery of location based services is based on the monitoring of the subscriber activities and location data that, by inference, can depict a "psycho-demographic" profile of the subscriber. The inference may be based on the application of heuristic rules or other known facts to the observed location data and activities to obtain a psycho-demographic profile) (see page 7, paragraph 73); and determining an information-provider terminal predicted to exist at said predicted moving destination of said mobile information terminal on the basis of locations of information-provider terminals pre-recording plans to distribute information as a notification, and determining distributed and reported information corresponding to an information category registered in advance by said mobile information terminal among pieces of information to be provided by said selected information-provider terminal (i.e., a predicted activity and/or route of the subscriber can be used to deliver advertisements, services and/or information to the subscriber in advance of their actual arrival at the location. For example, if it is known that the subscriber will be commuting to work on Monday morning via I95, data (advertisements, services, or information) related to locations on that route may be transmitted to the subscriber in advance. The predicted activity/route data is

used in conjunction with the subscriber profile so that targeted data can be delivered to the

subscriber) (see page 4, and paragraph 41).

Therefore, it would have been obvious to one of ordinary skill in the art at the time of the

invention to combine both teachings to arrive at the claimed invention. A motivation for doing so

would have been to provide a system so that services delivered to mobile subscriber can be based

on both the location and some characteristic of the subscriber (see page 2, paragraph 18).

Regarding claim 2, Sheha discloses a system (see claim 1 rejection) wherein predictive

routing provides the user or application with estimated predicted route calculation information

between location updates based on various preferences, such as origin and destination

information, map data information (e.g., road speed limits, one-way information, etc.), mobile

device information (i.e., heading, speed, vehicle type, etc.). Predictive routing is based on one or

more known location updates and is calculated from the time an initial location update arrives to

the time when the next location update arrives) (see page 2, paragraph 12).

Although Sheha discloses a system as described, Sheha does not specifically disclose a

system wherein the computer system is provided with an interference formula, nor does he

disclose a computer system, if existence at an origin to which an inference formula is applied is

confirmed on the basis of information on locations of said mobile information terminal, infers

prediction of said mobile information terminal's moving destination and moving direction on the

basis of said inference formula.

However, Eldering discloses a system wherein the subscriber profiler 230 uses the

location and time data to predict the subscriber activity and/or the subscriber route (see page 7,

paragraph 66), and wherein the delivery of location-based services is based on the monitoring of

the subscriber activities and location data that, by inference, can depict a "psycho-demographic" profile of the subscriber. The inference may be based on the application of heuristic rules or other known facts to the observed location data and activities to obtain a psycho-demographic profile (see page 7, paragraph 73).

Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to combine both teachings to arrive at the claimed invention. A motivation for doing so would have been to provide a system so that services delivered to mobile subscriber can be based on both the location and some characteristic of the subscriber (see page 2, paragraph 18).

Regarding claim 3, Sheha discloses a system (see claim 1 rejection) wherein location updates are used to calculate a route, the system uses map data, such as road map data, to calculate an estimated or predictive route (which inherently contains a plurality of scales as shown in figs. 5-26) (see paragraph 15).

Although Sheha discloses a system as described, Sheha does not specifically disclose a system wherein each of a plurality of said inference formulas is defined on the basis of map information having a plurality of scale factors.

However, Eldering discloses a system wherein the inference may be based on the application of heuristic rules to the observed location data and activities (see paragraph 73) wherein the data regarding the attributes of a location may be gathered using map databases.

Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to combine both teachings to arrive at the claimed invention. A motivation for doing so would have been to provide a system so that services delivered to mobile subscriber can be based on both the location and some characteristic of the subscriber (see page 2, paragraph 18).

Regarding claim 8, Sheha discloses a system as described above (see claim 1 rejection).

Although Sheha discloses a system as described, Sheha does not specifically disclose a system wherein if said mobile information terminal makes an urgent request for information on a place in an area at which said mobile information terminal is currently located, said computer system transmits said information based on most recent information on a location of said mobile information terminal.

However, Eldering discloses a system wherein if said mobile information terminal makes an urgent request for information on a place in an area at which said mobile information terminal is currently located (i.e., the subscriber profiler receives data about where the subscriber is roaming) (see paragraph 46), said computer system transmits said information based on most recent information on a location of said mobile information terminal (the service/content provider delivers services to the subscriber based on their actual or predicted location) (see paragraph 47).

Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to combine the teachings to arrive at the claimed invention. A motivation for doing so would have been to ensure the proper delivery of location-based services.

Regarding claim 10, Sheha discloses a system wherein the computer system receives a response to information transmitted to said mobile information terminal as a notification from said mobile information terminal (i.e., the wireless mobile device obtains its location information from a positioning device, then transmits the location update information to the server system) (paragraph 69) and records, separates as well as analyzes said response The (i.e., the mobile device transmits its position information periodically to a server that routes the location packet

updates to another server component or system for storage and real-time or future dynamic

estimated route calculation (analyze and separate)) (paragraph 19).

Regarding claim 11, Sheha discloses a system as described above (see claim 1 rejection).

Although Sheha discloses a system as described above, Sheha does not specifically

disclose a system wherein the computer system informs said information-provider terminal of a

result of an analysis of said response by said mobile information terminal.

However, Eldering discloses a system wherein the computer system informs said

information-provider terminal of a result of an analysis of said response by said mobile

information terminal (i.e., the subscriber profile and the current location of the subscriber are

transmitted to the advertiser) (see fig. 4, paragraph 64).

Therefore, it would have been obvious to one of ordinary skill in the art at the time of the

invention to combine the teachings so that appropriate services could be delivered to the

subscriber.

5.   Claims 4 and 7 are rejected under 35 U.S.C. 103(a) as being unpatentable over

Sheha and Eldering, in further view of Belcea, U.S. Patent No. 6728545.

Regarding claim 4, Sheha discloses a system wherein an application compared to having

only the points displayed on the map, straight lines between the points, or arrows at the points

indicating the heading of the device at that specific point (Sheha paragraph 83). Eldering

discloses a system wherein the inference may be based on the application of heuristic rules to the

observed location data and activities (Eldering paragraph 73). Thus one skilled in the art would

immediately envision that the location data, which may be gathered using map databases,

inherently comprise regression lines, which are derived by the points that are acquired when the location update is received. The combination further discloses a system comprising finding a distance between two locations, and determining that an information-provider terminal exists in the vicinity of the predicted moving destination of the mobile information terminal if the distance is within a pre-determined allowable range (see Sheha paragraphs 81 and 82; and Eldering paragraphs 61 and 73).

Although, the combination discloses a system as described, the combination does not specifically disclose a system wherein finding a distance between locations by adoption of a least-square method.

However, Belcea discloses a system comprising executing a step of finding a distance between locations by adoption of a least-square method (see col. 8, line 54 through col. 9, line 12).

Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to combine both teachings to arrive at the claimed invention. A motivation for doing so would have been to provide a system capable of minimizing the error that could be present in the estimation or prediction of possible routes.

Regarding claim 7, the combination discloses a system wherein if an inference formula, which is found as an equation for predicting said mobile information terminal's moving destination and moving direction each time most recent information on a location of said mobile information terminal is obtained, changes very frequently in a time series (Sheha paragraphs 12, 26 and 83, Eldering paragraph 73). The combination also discloses predicting a polarity of a

movement of said mobile information terminal on the basis of said mobile information terminal's

location information accumulated in the past (see paragraph 22).

Although, the combination discloses a system as described, the combination does not

specifically disclose a system wherein the computer system predicts a polarity of a movement of

said mobile information terminal by application of a partial derivative.

However, Belcea discloses a system comprising predicting a polarity of a movement of

said mobile information terminal by application of a partial derivative (see col. 7, lines 24-63).

Therefore, it would have been obvious to one of ordinary skill in the art to combine the

teachings to arrive at the claimed invention. A motivation for doing so would have been to

provide an error minimizing technique as related to the computation of the estimated path.

6.   Claim 5 is rejected under 35 U.S.C. 103(a) as being unpatentable over Sheha and

Eldering, in further view of Welch, U.S. Patent No. 5230061.

The combination discloses a system as described above (see claim 1 rejection).

Although the combination discloses a system as described, the combination does not

specifically disclose a system wherein the computer system forms a judgment as to whether or

not an inference formula defined on the basis of information on locations of said mobile

information terminal is proper and, if said defined inference formula is found improper, a new

inference formula is defined.

However, Welch discloses a Map inference engine wherein if the value of the clause

changes (judgment), the inference engine is adapted to scan to the left in the map representation

so as to update the clause containing the changed clause, or if none, the inference engine will

recalculate (new inference formula is defined) the rule as represented by the clause, based upon

the updated value of its main clause (see col. 15, lines 6-13).

Therefore, it would have been obvious to one of ordinary skill in the art at the time of the

invention to combine the teachings as described to arrive at the claimed invention. A motivation

for doing so would have been to ensure the proper and accurate estimation of routes, as related to

location information.

Allowable Subject Matter

7.   Claims 6, 9, and 12 are objected to as being dependent upon a rejected base claim,

but would be allowable if rewritten in independent form including all of the limitations of the

base claim and any intervening claims.

Conclusion

8.   **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of

time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE

MONTHS from the mailing date of this action. In the event a first reply is filed within TWO

MONTHS of the mailing date of this final action and the advisory action is not mailed until after

the end of the THREE-MONTH shortened statutory period, then the shortened statutory period

will expire on the date the advisory action is mailed, and any extension fee pursuant to 37

CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event,

however, will the statutory period for reply expire later than SIX MONTHS from the mailing

date of this final action.

Any inquiry concerning this communication or earlier communications from the

examiner should be directed to Pierre-Louis Desir whose telephone number is (571) 272-779.

The examiner can normally be reached on Monday-Friday 8:00AM- 5:30PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's

supervisor, Joseph Feild can be reached on (571) 272-4090. The fax phone number for the

organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent

Application Information Retrieval (PAIR) system. Status information for published applications

may be obtained from either Private PAIR or Public PAIR. Status information for unpublished

applications is available through Private PAIR only. For more information about the PAIR

system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR

system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Pierre-Louis Desir
AU 2681
11/25/2005

JOSEPH FEILD
SUPERVISORY PATENT EXAMINER